

OUTDOOR PRODUCTS OWNER'S GUIDE



(Model R-86 Shown With Optional Grass Catcher)

R-86/R-10 RIDING MOWERS

Model Numbers 130-511C190 130-521D190

INDEX

Slope Gauge	3
Contents of Hardware Pack	
Rules for Safe Operation Practices	5
Assembly Instructions	
Controls	10
Operation	12
Adjustments	13
Lubrication	16
Maintenance	16
Off-Season Storage	19
Trouble Shooting Chart	.20, 21
Electrical System	
Illustrated Parts for Lawn Tractor	
Illustrated Parts for Transaxle	30, 31
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Dear Customer,

So often throughout the year we are all in a rush to meet our daily obligations.

However, we at White Outdoor <u>Products</u> are taking a quick moment out to say...

"Thank you for your business."

Sincerely,
WHITE OUTDOOR PRODUCTS



INSTRUCTIONS GIVEN WITH THIS SYMBOL ARE FOR PERSONAL SAFETY. BE SURE TO FOLLOW THEM.

TWO YEAR LIMITED WARRANTY

For two years from the date of original retail purchase, WHITE OUTDOOR PRODUCTS COM-PANY will either repair or replace, at its option, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. Transcortation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser. Transportation charges for any parts submitted for replacement under this warranty must be paid by the purchaser unless such return is requested by WHITE OUTDOOR PRODUCTS COMPANY.

This warranty will not apply to any part which has become inoperative due to misuse, excessive use, accident, neglect, improper maintenance, alterations, or if the unit has not been operated and maintained in accordance with the instructions furnished. This warranty does not apply to the engine, Peerless components, motor, battery (except as noted below) or component parts thereof. Please refer to the applicable manufacturer's warranty on these items.

A battery which proves defective within ninety (90) days will be replaced without charge. After 90 days but within one hundred twenty (120) days from the date of purchase, WHITE OUTDOOR PRODUCTS COMPANY will replace the defective battery for a charge of 1/2 of the current retail price of the battery in effect at the date of return.

Warranty on units used commercially is limited to sixty (60) days.

Warranty service is available through your local authorized service dealer or distributor. If you do not know the dealer or distributor in your area, please write to the Customer Service Department of WHITE OUTDOOR PRODUCTS.

The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by WHITE OUTDOOR PRODUCTS.

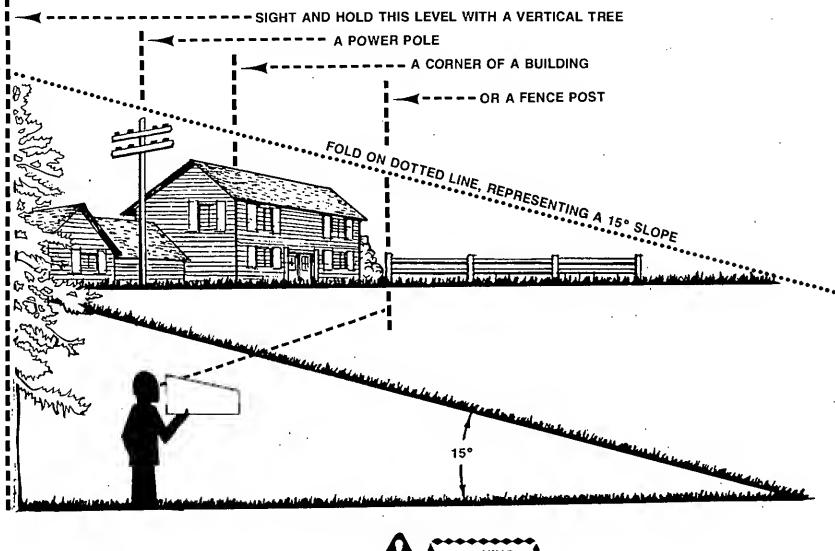
This express limited warranty is in lieu of all other warranties, express or implied, including any implied warranty of merchantability. The remedy of replacement is the sole and exclusive remedy for WHITE OUTDOOR PRODUCTS obligations arising from the sale of its products. In no case will WHITE OUTDOOR PRODUCTS COMPANY be liable for incidental or consequential loss or damage.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the customer service department of White Outdoor Products.

USE THIS SHEET AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.



WARNING

Do not mow on Inclines with a slope in excess of 15 degrees (a rise of approximately $2\frac{1}{2}$ feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

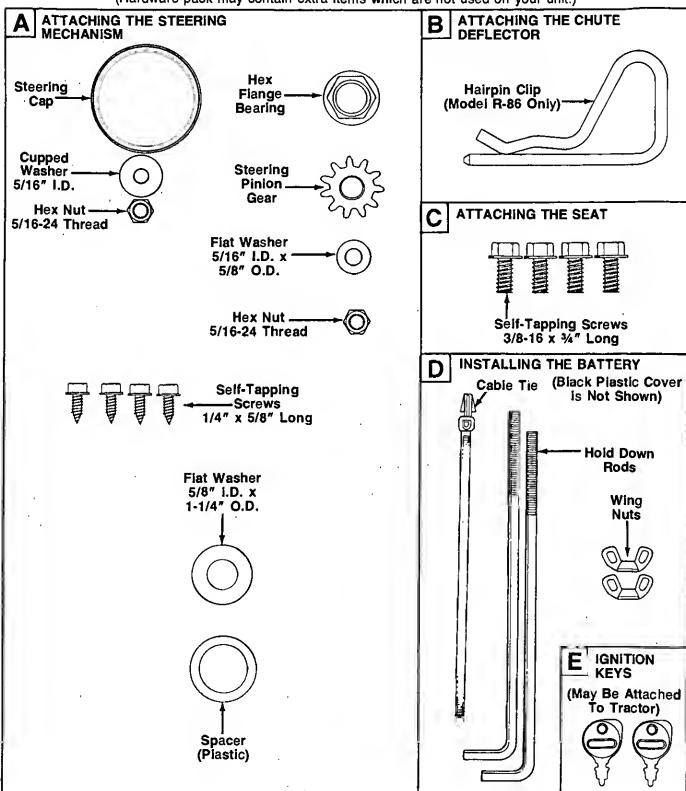
Operate RIDING mowers up and down slopes, never across the face of slopes. Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes.

sheet for future reference.

CONTENTS OF HARDWARE PACK

Remove this sheet from your owner's manual and separate the hardware according to the illustration for identification purposes. Parts are illustrated approximately half size. Refer to the separate deck manual for any assembly instructions concerning the deck. After assembly, keep the Slope Gauge which is on the reverse side of this sheet for future use.

(Hardware pack may contain extra items which are not used on your unit.)



--Cut Along This Line--

INCHES

IMPORTANT

RULES FOR SAFE OPERATION



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWEO, COULO ENOANGER THE PERSONAL SAFETY ANO/OR PROPERTY OF YOURSELF AND OTHERS. REAO ANO FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR UNIT. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY. WHEN YOU SEE THIS SYMBOL—

A HEED ITS WARNING.





DANGER

Your unit was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. If you violate any of these rules, you may cause serious injury to yourself or others.

- REAO THIS OWNER'S MANUAL carefully in its entirety before attempting to assemble or operate this unit. Keep this manual in

 a safe place for future and regular reterence and for ordering replacement parts.
- This unit is a precision piece of power equipment, not a plaything. Therefore exercise extreme caution at all times.
- 3. Know the controls and how to stop the machine quickly.
- Oo not allow children to operate vehicle. Do not allow adults to operate it without proper instruction. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
- Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts to avoid entanglement in the moving parts. Never operate a unit in bare feet, sandals, or sneakers.
- To prevent Injury, do not carry passengers or give rides. Keep children, pets and bystanders out of the area while mowing. Only the operator should ride on the unit and only ride in the seat.
- Check overhead clearance carefully before driving under power lines, guy wires, bridges or low hanging tree branches, before entering or leaving buildings, or in any other situation where the operator may be struck or pulled from the unit, which could result in serious injury.
- To maintain control of the unit and reduce the possibility of upset or collision, operate the tractor smoothly. Avoid erratic operation and excessive speed.
- 9. Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower. Although the area of operation should be completely cleared of toreign objects, a small object may have been overlooked and could be accidently thrown by the mower in any direction and cause injury to you or a bystander.
- 10. Always wear safety glasses or eye shields during operation or while performing an adjustment or repair, to protect eyes from toreign objects that may be thrown from the machine in any direction.
- 11. Stop the blade(s) when crossing gravel drives, walks or roads.
- Oisengage all attachment clutches and shift into neutral before attempting to start engine.
- Before leaving the operator's position, disengage blade(s), place shift lever in neutral, engage parking brake, shut engine off and remove key.
- 14. Oo not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times as the rotating blade(s) can cause injury.
- 15. Oisengage power to attachment(s) and stop engine before making any repairs or adjustments. Oisconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
- 16. Before attempting to unclog the mower or discharge chute, stop the engine. The mower blade(s) may continue to rotate for a few seconds after the engine is shut off. Therefore, be sure the blade(s) have stopped completely. Oisconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.

- 17. Oisengage power to attachment(s) when transporting or not in use.
- 18. For your safety, use the slope gauge included as part of this manual to measure slopes betore operating this unit on a sloped or hilly area. If the slope is greater than 15° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.
- 19. Oo not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face. Use extreme caution if it is necessary to drive the tractor up an incline or back the tractor down an incline because the front of the tractor could lift and rapidly flip over backward which could cause serious injury.
- 20. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Always keep the tractor in low gear when going down steep hills to take advantage of engine braking action. Choose a low enough gear so that you will not have to stop or shift while on the slope.
- 21. Stay alert for holes in terrain and other hidden hazards which may cause the unit to tip over.
- 22. Use care when pulling loads or using heavy equipment.
 - A. Use only approved drawbar hitch points.
 - B. Limit loads to those you can safely control.
 - C. Oo not turn sharply. Use care when backing.
 - Use counterweight(s) or wheel weights when suggested in owner's manual.
- 23. Watch out for traffic when crossing or near roadways.
- When using any attachments, never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
- 25. Handle gasoline with care. It is highly flammable.
 - A. Use approved gasoline container.
 - B. Never remove cap or add gasoline to a running or hot engine or fill fuel tank indoors. Wipe up spilled gasoline. Always use original type vented cap.
 - C. Open doors it engine is run in garage. Exhaust fumes are dangerous. Oo not run engine indoors.
- 26. Never store the machine with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters, clothes dryers, and the like. Allow the engine to cool before storing in any enclosure.
- To reduce fire hazard, keep engine and cutting deck free of grass, leaves or excessive grease.
- 2B. Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in operator's manual.
- 29. Keep all nuts, bolts, and screws tight to be sure the equipment is in sate working condition.
- The vehicle and attachments should be stopped and inspected for damage after striking a foreign object. The damage should be repaired before restarting and operating the equipment.
- Oo not change the engine governor settings or overspeed the engine.

Rules for Safe Operation (continued)

- 32. When using the vehicle with mower, proceed as follows:
 - (1) Mow only in daylight or in good artificial light.
 - (2) Never make a cutting height adjustment while engine is running if operator must dismount to do so.
- (3) Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher.
- (4) Check blade mounting bolts for proper tightness at frequent intervals.
- Check grass catcher bags frequently for wear or deterioration. For safety protection, replace only with new bag meeting original equipment specifications.
- 34. Look behind to make sure the area is clear before placing the transmission in reverse and continue looking behind while backing up. Disengage blades before shifting into reverse and backing
- 35. This unit should not be driven up a ramp onto a trailer or truck under power, because the unit could tip over, causing serious personal injury. The unit must be pushed manually to load properly.
- Check brake operation frequently. Adjust and service according to brake adjustment instructions in this manual.

ASSEMBLY

IMPORTANT: This unit is shipped WITHOUT GASOLINE or OiL; however, a small amount of oil may be present from the factory. Do not overfill. After assembly, service engine with gasoline and oil as instructed in the separate engine manual packed with your unit.

NOTE: Reference to right or left hand side of the unit is observed from the driver's seat, facing forward.

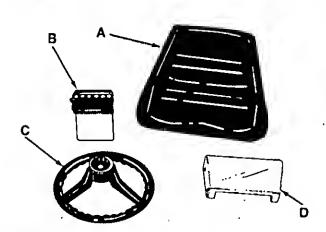


FIGURE 1.

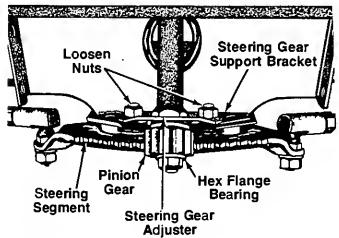


FIGURE 2.

This owner's manual covers two models of lawn tractors. Follow only those instructions which pertain to your model riding mower. Refer to the separate deck manual for all Information concerning the deck.

UNPACKING

- Remove the riding mower from the carton as follows. Open the top flaps. Remove all loose parts and carton inserts. Cut the front comers of the carton. Make certain brake is released, and push the unit out of the carton.
- 2. Remove page four from this manual and separate the contents of the hardware pack according to the illustration for identification.

Loose Parts In Carton: (See Figure 1)

- A (1) Seat
- B (1) 12 Volt Battery
- C (1) Steering Wheel
- D (1) Steering Gear Cover
- E (1) Steering Shaft Assembly-Not Shown

ATTACHING THE STEERING MECHANISM (Hardware A)



WARNING: Follow Instructions carefully as improper adjustment of the steering mechanism will cause excessive wear on the steering gear segment and will void your warranty.

- Insert the steering shaft through the steering housing cover. Place flat washer and plastic spacer over end of steering shaft before inserting the shaft through the hole in the front end of the steering gear adjuster (Ref. No. 75 on page 26).
- Loosen the hex nuts located at the rear of the steering gear adjuster so that the steering gear adjuster can be pulled about ¼" toward the front of the rider, to permit easier assembly of the pinion gear. One 9/16" wrench is required.
- 3. Place hex flange bearing, flat side down, over the end of the steering shaft, and seat it into the —steering gear adjuster. See figure 2.

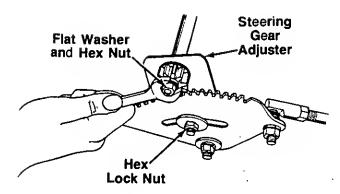


FIGURE 3.

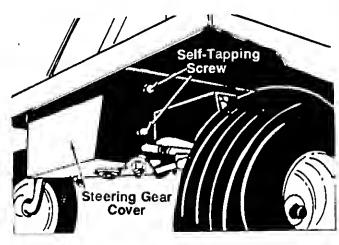
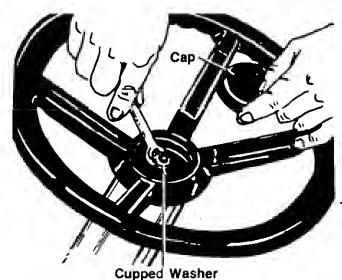


FIGURE 4.



Hex Lock Nut

4. Raise steering shaft slightly so plnlon gear can be placed in position (teeth of gear must mesh with teeth of steering gear segment). Insert steering shaft through pinion gear (splined collar on steering shaft is inside of pinion gear). Then place flat—washer (5/8" diameter) on shaft and secure with hex nut (5/16" I.D.). Do not tighten at this time.

5. Push the steering gear adjuster (loosened in step 2) forward toward its original position, until the pinion gear engages solldly Into the teeth of the steering gear segment. Retighten the nuts at the rear of the steering gear adjuster. One 9/16" wrench is required.



WARNING: Steering gear must be adjusted as Instructed In step 5, and hex lock nut must be adjusted as Instructed in step 7. Improper adjustment will cause excessive wear on the steering gear segment.

- 6. Now tighten the hex nut which secures the pinion gear. See figure 3.
- 7. Make certain the hex lock nut which secures the steering segment to the steering gear support bracket (shown in figure 3) is tightened so there is no play between the two parts. Do not overtighten as the steering segment must be free to turn.
- 8. Lubricate the teeth of the pinion gear and steering gear segment with an automotive chassis grease.
- 9. Install the steering gear cover (D) as shown in figure 4, to cover the underside of the steering mechanism. Secure with two self-tapplng screws on each side of the cover. Do not completely tighten any of these screws until all four of them are positioned correctly.
- Position the front wheels of the riding mower so they are pointing straight forward.
- Place steering wheel (C) in position desired. Make certain the steering wheel is seated over the end of the steering tube.
- Place the cupped washer with the cupped side down over the steering shaft. Secure with 5/16"
 hex lock nut. See figure 5.
- Place the steering wheel cap over the center of the steering wheel and seat it with your hand.

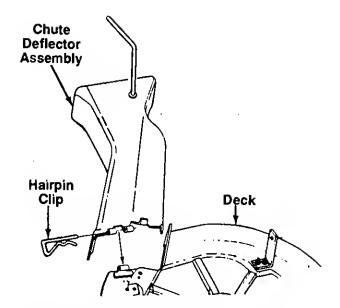


FIGURE 6.-30" Rear Discharge (Model R-86)

ATTACHING THE CHUTE DEFLECTOR (Hardware B) 30" Rear Discharge Deck (Model R-86):

Secure the chute deflector to the deck by placing the large hairpin clip in the chute deflector bracket, —located on the rear of the deck. See figure 6.

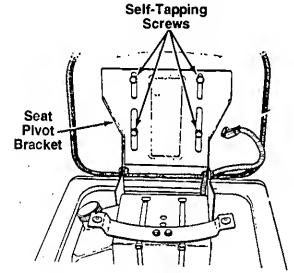


FIGURE 7.

ATTACHING THE SEAT (Hardware C)

The slots in the seat plvot bracket allow the seat to be adjusted to different positions. Place the seat against the seat pivot bracket in the position desired, and secure with four self-tapping screws. See figure 7.

TIRE PRESSURE

The tires on your unit may be over-inflated for shipping purposes. Reduce the tire pressure before operating the unit. Recommend operating tire pressure is approximately 12 p.s.i. (check sidewall of tire for tire manufacturer's recommended pressure).



WARNING: Maximum tire pressure under any circumstances is 30 p.s.i. Equal tire pressure should be maintained on all tires.

BATTERY INFORMATION



- A. Battery acid must be handled with great care as contact with it can burn and blister the skin. It is also advisable to wear protective clothing (goggles, rubber gloves and apron) when working with it.*
- B. Should battery acid accidentally splatter into the eyes or onto the face, rinse the affected area immediately with clean cold water. If there is any further discomfort, seek prompt medical attention.
- C. If acid spills on clothing, first ditute it with clean water, then neutralize with a solution of ammonia/ water or baking soda/water.

- D. Since battery acid is corrosive, do not pour it into any sink or drain. Before discarding empty electrolyte containers, rinse them with a neutralizing solution.
- E. NEVER connect or disconnect charger clips to battery while charger is turned on as it can cause sparks.
- F. Keep all lighted materials (cigarettes, matches, lighters) away from the battery as the hydrogen gas generated during charging can be combustible.
- G. As a further precaution, only charge the battery in a well-ventilated area.
 - *Always shield eyes, protect skin and clothing when working near batteries.

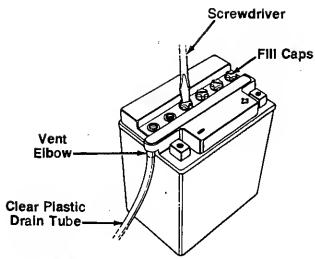


FIGURE 8.

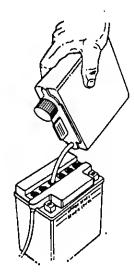


FIGURE 9.



DANGER

Battery contains sulfuric acid. Refer to warning on page 8. Antidote: EXTERNAL—Flush with water. INTERNAL—Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Seek prompt medical attention. EYES: Flush with cool water for at least 15 minutes, then seek immediate medical attention.

Since batteries produce explosive gases, keep all lighted materials (cigarettes, lighters, matches, etc.) away. Be sure to charge battery only in well-ventilated areas. Make certain venting path of battery (drain tube) is always open.

KEEP BATTERIES
OUT OF THE REACH OF CHILDREN!

ACTIVATING THE BATTERY

Do not activate battery (fill with battery acid) until battery is actually placed in service. Be certain to read previous warnings before activating the battery.

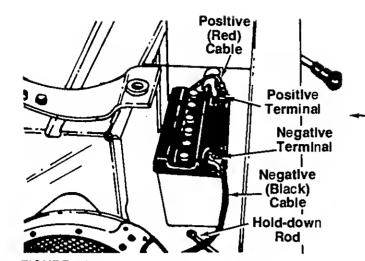
- Open the battery pack. Be careful not to puncture the box. It contains the battery with a long plastic tube attached, battery fluid (acid) in a plastic container, one short plastic tube and one hardware pack (two hex bolts and nuts).
- Place the battery on a table or workbench. Make certain the long plastic drain tube is in place on the vent elbow.
- Remove the six fill caps from the top of the battery with a screwdriver. Be careful not to damage—the fill caps. See figure 8.
- Place the battery fluid container on the table or workbench. Carefully cut off tip of the spout and attach the short plastic tube provided. Do not squeeze the container when cutting tip.
- Fill each battery cell slowly and carefully to the UP-PER LEVEL line marked on battery. See figure 9. Use caution as the acid level will rise rapidly after the bottom of the cell is filled.
- 6. Allow battery to stand for 30 minutes with the fill caps removed, while the plates absorb acid.
- If acid level has fallen after the 30 minute standing period, refill each cell with battery acid to the UP-PER LEVEL line on battery. Replace the fill caps.
- Before discarding the empty container, neutralize any residue with baking soda and rinse container with water. Puncture container several times before discarding.
- 9. Charge the battery after the 30 minute standing period. SLOW CHARGE THE BATTERY (DO NOT FAST CHARGE) at a maximum bench rate of 1.4 amperes until the specific gravity reading is 1.260-1.280. Charge for a minimum of 2 hours and a maximum of 8 hours.

NOTE: This engine is equipped with an alternator. The current for the battery charger alternator is unregulated. During normal operation, it is only necessary to charge the battery:

- 1. When it is activated for the first time.
- 2. Before winter storage.
- 3. Before using the lawn tractor after winter storage.

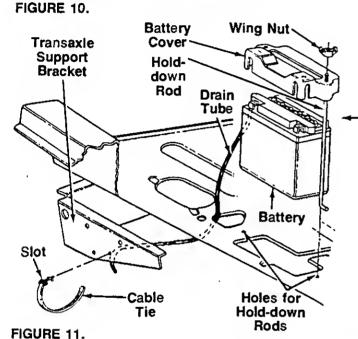
NOTE: Charging rate after battery has been put into operation: The battery is to be charged for a period of 14-16 hours, NO LONGER THAN 30 HOURS.

After battery has been charged, add only distilled water. Do not add acid.



INSTALLING THE BATTERY (Hardware D)

- 1. Hook the battery hold-down rods into the holes in the frame. See figures 10 and 11.
- Place the battery in the rider with the positive terminal to the front. The negative terminal goes to
 the rear of the unit. See figure 10.
- Place the positive (heavy red) cable and small red wire with in-line fuse on the positive terminal.
 Secure with bolt, nut and lock washer provided with battery.
- 4. Place the negative (heavy black) cable on the negative terminal. Secure with bolt, nut and lock washer provided with battery. See figure 10.



- Secure the battery in place with battery cover and hold-down rods. Secure with two wing nuts. See
 figure 11.
- Route the clear plastic drain tube down through the hole in the frame, next to the engine drain plug, shown in figure 11.
- 7. Push the locking end of cable tie through the hole in transaxle support bracket. Place the end of cable tie through the slot so a loop is formed around the drain tube to secure it. Tighten cable tie and cut off excess end.

CONTROLS

This manual should be read in its entirety before operating the riding mower. Be certain to service the engine with gasoline and oil as instructed in the separate engine manual before starting the engine. Study the operating instructions and safety precautions thoroughly to insure proper functioning of your mower and to prevent injury to yourself and others. Be sure to save this manual for future reference.

THROTTLE CONTROL

The throttle control is used to regulate the engine speed. The engine should be operated at full throttle when operating the cutting deck. See figure 12.

CHOKE CONTROL

The choke control is located on the console and is operated manually. Details for the choke operation are covered in the separate engine manual packed with your unit. See figure 12.

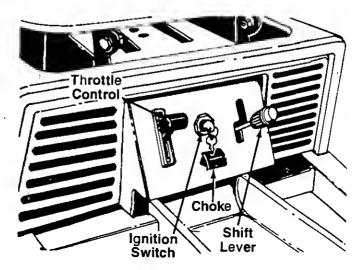


FIGURE 12.

IGNITION KEY

The key must be turned to the START position to start the engine. After the engine is running, let the key return to the ON position. Turn the key to the OFF position to stop the engine. Remove the key when the rider is not in use. See figure 12.

SHIFT LEVER

The shift lever is located on the left hand side of the console and has three positions, FORWARD, NEUTRAL and REVERSE. See figure 12. The clutch-brake pedal must be depressed and the riding mower must not be moving when shifting gears. Do not force the shift lever. Release the clutch-brake pedal slightly to line up the shifting collar in the transmission. Then try to shift gears.

SPEED CONTROL LEVER

The speed control lever allows you to regulate the ground speed of the riding mower to one of six settings. See figure 13. To set, depress clutch pedal. Push speed control lever outward and move backward to slow rider, move forward to increase speed. When desired speed has been obtained, place lever in that position. Whenever clutch is engaged, rider will automatically go to the pre-set speed.

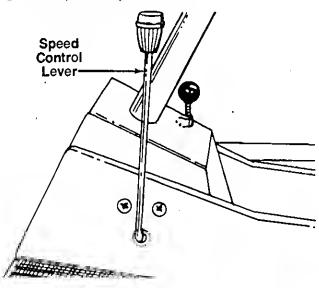


FIGURE 13.

GASOLINE GAUGE

The gasoline gauge is located in the gasoline fill cap. The gauge indicates the amount of fuel in the tank.

CLUTCH-BRAKE PEDAL

The clutch-brake pedal is located on the right side of the rider. Depressing the clutch-brake pedal part way disengages the clutch. Pressing the pedal all the way down disengages the clutch and engages the disc brake. See figure 14.

NOTE: The clutch-brake pedal must be depressed to start the engine. Parking brake must be engaged if operator leaves the seat with the engine running.

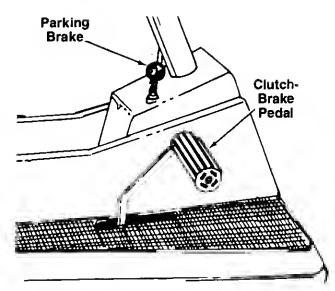


FIGURE 14.

PARKING BRAKE

To set the parking brake, depress the clutch-brake pedal and press the parking brake knob down. To release the parking brake, depress and release the clutch-brake pedal. See figure 14.

BLADE ENGAGEMENT LEVER

The blade engagement lever is located on the right hand side of the deck. Figure 15 shows the blade engagement lever in the disengaged position.

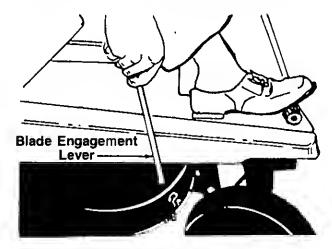


FIGURE 15.

To engage the blade, move the blade engagement lever toward the front of the unit. Move the lever toward the rear to disengage the blade.

DECK CUTTING HEIGHT LEVER

The deck cutting height lever is used to raise and lower the cutting deck, which sets the cutting height.

Move the lever outward, select desired cutting height and release lever. The lever may be set in any one of the six cutting height positions. See figure 16.



WARNING: The blade does not shut off when the deck is raised. You must place the Blade Engagement Lever in the disengaged (OFF) position.

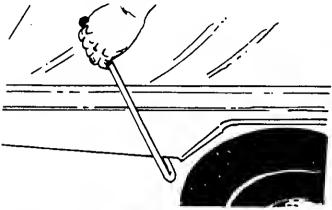


FIGURE 16.

SAFETY INTERLOCK SYSTEM

Interlock safety switches are located on the clutchbrake pedal, the blade engagement lever, shift lever and the seat.

Before the engine will start or if the operator leaves the seat, the clutch-brake pedal must be depressed all the way (parking brake engaged), and the blade engagement lever must be in the disengaged position.

In addition, the blade engagement lever must be in the disengaged position before the unit can be shifted into reverse.

OPERATION

CAUTION READ OPERATOR'S MANUAL(S) • NEVER CARRY CHILDREN KNOW LOCATION AND FUNCTION OF ALL CONTROLS KEEP SAFETY DEVICES (GUARDS. SHIELDS AND SWITCHES) IN PLACE AND WORKING REMOVE OBJECTS THAT COULO BE THROWN BY BLADE(S) DO NOT OPERATE THE UNIT WHEN CHILDREN AND OTHERS ARE AROUND ALWAYS LOOK BEHIND THE UNIT BEFORE BACKING UP DD NOT OPERATE THE UNIT WHERE IT COULD SLIP OR TIP IF THE UNIT STOPS GOING UPHILL. STOP BLADE(S) AND BACK SLOWLY OOWNHILL BE SURE BLADE(S) AND ENGINE ARE STOPPED BEFORE PLACING HANOS OR FEET NEAR BLADE(S) BEFORE LEAVING OPERATOR'S POSITION. DISENGAGE THE BLADE(S). PLACE THE SHIFT LEVER IN NEUTRAL. ENGAGE THE PARKING BRAKE. SHUT ENGINE OFF AND REMOVE JHE KEY.

IMPORTANT: This unit is equipped with a safety interlock system for your protection. The purpose of the safety interlock system is to prevent the engine from cranking or starting unless the clutch-brake pedal is depressed and the blade engagement lever is in the disengaged position. In addition, the blade engagement lever must be in the disengaged position when the unit is put into reverse or the engine will shut off. If the operator leaves the seat with the blade engagement lever engaged and/or without setting the parking brake, the engine will shut off.



WARNING: Do not operate the rider if the interlock system is malfunctioning because it is a safety device, designed for protection.

GAS AND OIL FILL-UP

Service the engine with gasoline and oil as instructed in the separate engine manual packed with your rider. Read instructions carefully.

NOTE: Your rider is shipped without oil; however, a small amount of oil may be present from the factory. Do not overfill.



WARNING: Never fill fuel tank indoors, with engine running or while engine is hot.

STARTING THE ENGINE



WARNING: Get on and off the unit from the left hand side to avoid possible contact with the blade engagement lever (located on the right hand side).

- 1. Attach the wire to the spark plug.
- Depress the clutch-brake pedal and lock it down.
- 3. Move the blade engagement lever back to the disengaged position.
- Set throttle control in the FAST position. Pull out the choke control.

NOTE: A warm engine may not require choking.

- 5. Place the shift lever in the NEUTRAL position.
- Turn the ignition key to the START position. As soon as the engine starts, let the key return to the ON position. See figure 12.
- Push choke knob in gradually. Move throttle control to desired engine speed.
- 8. To stop, turn the ignition key to the OFF position. Remove the key when the rider is not in use.

PUTTING THE RIDING MOWER IN MOTION

NOTE: Parking brake must be disengaged before unit is put into motion.

- Advance the throttle control to full throttle to prevent strain on the engine and to operate the cutting blades.
- Place the shift lever in either the FORWARD or REVERSE position.



WARNING: Look to the rear before backing up.

- Slowly release the clutch-brake pedal.
- 4. To stop, depress the clutch-brake pedal.

NOTE: When operating the unit initially, there will be little difference between the highest two speeds until after the belts have seated themselves into the pulleys during the break-in period.

The blades can be engaged either while moving or while standing still. Move the blade engagement lever forward slowly until the blades are turning.



WARNING: When the blades are engaged, keep feet and hands away from the discharge opening, the blades or any part of the deck.

STOPPING

Engine—Turn the ignition key to the left to the OFF position.

Rider-Depress the clutch-brake pedal.

Blades—Pull the blade engagement lever all the way back.

Be sure that the lawn is clear of stones, sticks, wire, or other objects which could damage lawn mower or engine. For best results and to insure more even grass distribution, do not mow when lawn is excessively wet.



WARNING: Before leaving the operator's position for any reason, disengage the blades, place the shift lever in neutral, engage the parking brake, shut engine off and remove the key.

When stopping the unit to empty a grass bag, etc., follow the instructions above. This procedure will also eliminate "browning" the grass, which is caused by hot exhaust gases from a running engine.

IMPORTANT: If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the mower for any damage, and repair the damage before restarting and operating the mower.

NOTE: If any problems are encountered, refer to the Trouble Shooting Guide on pages 20 and 21.

If unit stalls with speed control in high speed, or if unit will not operate with speed control lever in a low speed position, proceed as follows.

- 1. Place shift lever in Neutral.
- 2. Restart engine.
- 3. Place speed control lever in high speed position.
- 4. Release clutch-brake pedal fully.
- 5. Depress clutch-brake pedal.
- 6. Place speed control lever in desired position.
- Place shift lever in either Forward or Reverse, and follow normal operating procedures.

The following GRASS CATCHERS are available as optional equipment for the riding mowers shown in this manual.

Model 038 for Riding Mower Model R-86; Model 063 for Riding Mower Model R-10 (Requires Mounting Kit 435)



WARNING: The mower should not be operated without the entire grass catcher or chute deflector in place.

NOTE: Under normal usage bag meterial is subject to wear, and should be checked periodically. Be sure eny replacement bag complies with the mower manufacturer's recommendations.

For replacement bags, use only factory authorized replacement.

ADJUSTMENTS



WARNING: Do not at any time make any adjustment to riding mower without first stopping engine and disconnecting spark plug wire.

THROTTLE CONTROL

If adjustment is needed, refer to the separate engine manual packed with your unit.

SPEED CONTROL LEVER ADJUSTMENT

NOTE: When operating the unit initially or after replacing the belts, there will be little difference between the highest two speeds until after the belts have gone through a break-in period and have seated themselves into the pulleys.

If the full range of speeds cannot be obtained on your unit, adjust the speed control lever as follows.

- 1. Start the engine.
- 2. Place the shift lever in Neutral position.
- 3. Place the speed control lever in high speed position.
- Release the clutch-brake pedal completely, then slowly depress the pedal all the way (to park position). Hold the pedal in this position.
- 5. Turn the engine off.
- 6. After engine stops completely, release the clutch-brake pedal.
- 7. Disconnect the speed control rod by removing the hairpin clip and flat washer. See figure 17.

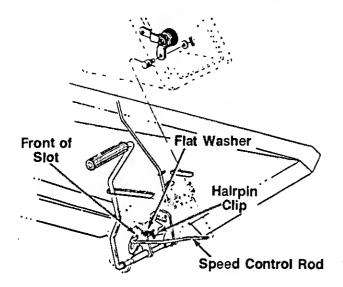


FIGURE 17.

- 8. Place the speed control lever in 2nd speed position.
- Adjust the rod by threading it in or out of the ferrule until it is all the way to the front of the slot as shown in figure 17.
- Secure the speed control rod using the flat washer and hairpin clip.

NEUTRAL ADJUSTMENT (See Figure 18)

- Place the transmission in neutral. (The unit will move freely when pushed forward and backward with the parking brake released).
- 2. Loosen the bolt which secures the shift lever assembly to the shift lever adjusting link.
- 3. Place the shift lever in the neutral slot.
- 4. Tighten the hex bolt to 13 foot pounds.

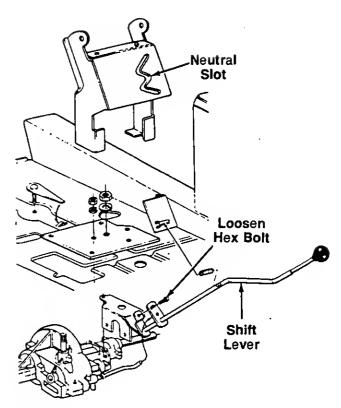


FIGURE 18.

BRAKE ADJUSTMENT (See Figure 19)

The brake is located by the left rear wheel Inside the frame. During normal operation of this machine, the brake is subject to wear and will require periodic examination and adjustment.

To adjust the brake, remove the cotter pin. Adjust the castle nut so the brake starts to engage when the brake lever is 1/4" to 5/16" away from the axle housing.

NOTE: Figure 19 is shown with the unit tipped up on rear wheels for clarity only.

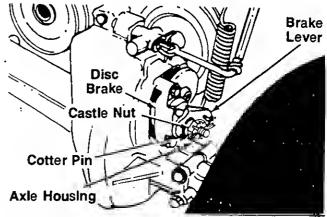


FIGURE 19.

WHEEL ALIGNMENT

The caster (forward slant of the king pin) and the camber (tilt of the wheels out at the top) require no adjustment. Automotive steering principles have been used to determine the caster and camber on the

mower. The front wheels should toe-in 1/8 inch. See figure 20. To adjust, follow these steps:

- 1. Remove the cotter pin and flat washer which hold the tie rod to the axle bracket. See figure 20.
- Adjust the tie rod in or out until the wheels toe-in approximately 1/8" (Dimension "A" should be approximately 1/8" less than dimension "B"). See figure 21.
- 3. Replace the tie rod into the wheel bracket, and replace the cotter pin and flat washer.

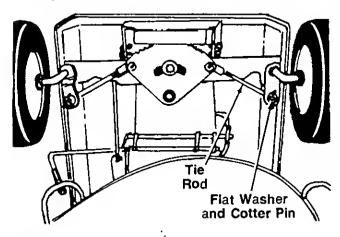


FIGURE 20.

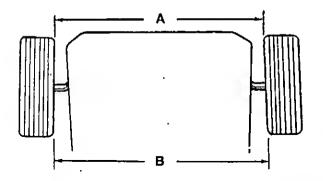


FIGURE 21.

DECK ADJUSTMENT

The deck adjustments which follow are for Model R-86 deck only. For Model R-10 deck, refer to the seperate deck manual packed with your rider.

Side to Side Leveling

NOTE: Check tire pressure in all four tires before leveling the deck. Recommended tire pressure is 12 p.s.i. If an uneven cut is obtained, the deck may be leveled. A deck adjustment rod is located on the right side of the unit. See figure 22.

To adjust the deck, loosen the two hex nuts at the right rear deck link assembly. Thread the hex nuts up or down the deck adjustment rod as necessary. Retighten the hex nuts.

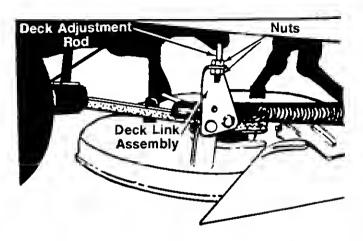


FIGURE 22.

Deck Pitch

The front of the deck should be approximately 1/4" to 3/8" lower than the rear of the deck. Adjust the pitch as follows.

- 1. Place the deck in the engaged position.
- 2. Remove the hairpin clip and flat washer which hold the deck lift connecting rod to the front deck lift assembly. See figure 23.
- Remove the connecting rod from the deck lift assembly and thread it in or out of the ferrule as necessary. See figure 23. Replace the rod.

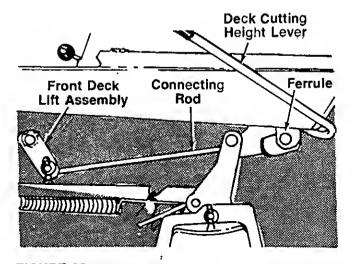


FIGURE 23.

BLADE BRAKE ADJUSTMENT (See figure 24)



WARNING: Make certain spark plug wire is disconnected and grounded against the engine while making this adjustment.

To adjust the blade brake, proceed as follows.

 Disconnect the brake cable from the lower inside belt guard on the rider by removing the hairpin clip, flat washer and clevis pin.

- 2. Lower the deck to its lowest position. Place the blade engagement lever in the disengaged position.
- 3. Pull the brake cable back so there is no slack in the cable. Do not put tension on the cable. Select the hole in the lower inside belt guard which aligns with the end of the cable. Move the end of the brake cable forward to the next hole in the belt guard (which will give a small amount of slack in the cable), and reassemble.

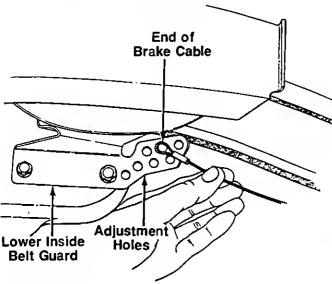


FIGURE 24.

CARBURETOR ADJUSTMENT



WARNING: If any adjustments are made to the engine while the engine is running (e.g. carburetor), disengage all clutches and blades. Keep clear of all moving parts. Be careful of heated surfaces and muffler.

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load. To adjust the carburetor, refer to the separate engine manual packed with your unit.

NOTE: A dirty air cleaner will cause an engine to run rough. Be certain air cleaner is clean and attached to the carburetor before adjusting carburetor.

LUBRICATION



WARNING: Always stop engine and disconnect spark plug wire before cleaning, lubricating or doing any kind of work on riding mower.

- Engine. Maintain the engine oil according to the engine manual.
- Front Wheels. The front wheels are provided with grease fittings. Lubricate at least once a season with automotive multi-purpose grease.
- 3. Linkage. Oil all deck linkage and height adjustment linkage.
- Transaxle. It is lubricated at the factory and does not require checking. Lubricate with 10 oz. of grease (Part No. 737-0148) if disassembled.

MAINTENANCE



WARNING: Disconnect spark plug wire and ground it against the engine before performing any repairs or maintenance.

CUTTING BLADE

A. Removal for Sharpening or Replacement



WARNING: Be sure to disconnect and ground the spark plug wire before working on the cutting blade to prevent accidental engine starting. Protect hands by using heavy gloves or a rag to grasp the cutting blade.

- Remove the large bolt and lock washer which holds the blade and adapter to the blade spindle. See figure 25.
- Remove the blade and adapter from the spindle.
- If the blade or blade adapter needs replacing, remove the two small bolts, lock washers and nuts which hold the blade to the adapter. See figure 25.

B. Sharpening

Remove the cutting blade by following the directions of the preceding section.

When sharpening the blade, follow the original angle of grind as a guide. It is extremely important that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the mower and could break, causing personal injury.

The blade can be tested for balance by balancing it on a round shaft screwdriver. Remove metal from the heavy side until it balances evenly.

NOTE: It is recommended that the blade always be removed from the adapter for the best test of balance.

C. Reassembly

Before reassembling the blade and the blade adapter to the unit, lubricate the spindle and the inner surface of the blade adapter with light oil. Lubricating the bolt holes, bolts and inner surface of the nuts with light oil is also recommended. A 4 oz. plastic bottle of light oil lubricant is available. Order part number 737-0170. Engine oil may also be used.

When replacing the blade, be sure to install the blade with the side of the blade marked "Bottom" (or with part number) facing the ground when the mower is in the operating position.

Blade Mounting Torque

3/8" Dia. Bolt 375 in. lb. min., 450 in. lb. max. 5/16" Dia. Bolt 150 in. lb. min., 250 in. lb. max.

NOTE: To insure safe operation, ALL nuts and bolts must be checked periodically for correct tightness.

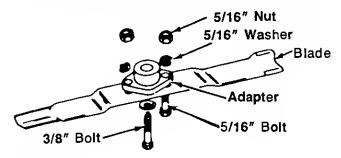


FIGURE 25.

FUEL FILTER

Your unit is equipped with a replaceable in-line fuel filter. Replace filter whenever contamination or discoloration is noticed. Order replacement filter through your engine authorized service dealer.

CLEANING ENGINE AND BLADE HOUSING

Any fuel or oil spilled on the machine should be wiped off promptly. Grass, leaves, and other dirt must not be left to accumulate around the cooling fins of the engine or on any part of the machine.

Clean the underside of the blade housing after each mowing.

BELTS

Check that belts are free of oil or dirt. Wipe the belts periodically with a clean rag.

ENGINE

Refer to separate engine manual for all engine maintenance instructions.

Maintain engine oil as instructed in the separate engine manual packed with your unit. Read and follow instructions carefully.

Service air cleaner every 25 hours under normal conditions. Clean every few hours under extremely dusty

conditions. Poor engine performance and flooding usually indicates that the air cleaner should be serviced.

The spark plug should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check engine manual for correct plug type and gap specification.

BATTERY MAINTENANCE

- Check periodically (every two weeks or before and after charging) to be sure electrolyte level is above the lowest line on battery. Add only distilled water or good quality drinking water. NEVER add additional acid or other chemicals to battery after initial activation.
- The battery should be checked with a hydrometer after every 25 hours of operation. If the specific gravity is less than 1.225, remove battery and recharge.
- Coat the terminals and exposed wiring with a thin coat of grease or petroleum jelly for longer service and protection against electrolyte corrosion.
- The battery should be kept clean. Any deposits of acid should be neutralized with soda and water.
 Be careful not to get this solution in the cells.

BATTERY STORAGE

- Charge battery using normal methods. NEVER store discharged battery as it will not recover.
- When storing battery for extended periods, disconnect battery cables. Removing battery from unit is recommended.
- 3. Store in cold, dry place.
- Recharge battery whenever the specific gravity is less than 1.225, before returning to service, or every two months, whichever occurs first.

COMMON CAUSES FOR BATTERY FAILURE ARE:

- 1. Overcharging
- 2. Undercharging
- 3. Lack of water
- 4. Loose hold downs and/or corroded connections
- 5. Excessive loads
- 6. Battery electrolyte substitutes
- 7. Freezing of electrolyte

NOTE: THESE FAILURES DO NOT CONSTITUTE WARRANTY.

TIRES

Recommended operating tire pressure is approximately 12 p.s.i. (check sidewall of tire for tire manufacturer's recommended pressure). Maximum tire pressure under any circumstances is 30 p.s.i. Equal tire pressure should be maintained on all tires.

When installing a tire to the rim, be certain rim is clean and free of rust. Lubricate both the tire and rim generously. Never inflate to over 30 p.s.i. to seat beads.



WARNING: Excessive pressure (over 30 p.s.i.) when seating beads may cause thre/rim assembly to burst with force sufficient to cause serious injury.

DRIVE BELT REMOVAL AND REPLACEMENT

NOTE: It is recommended that the entire instructions on belt removal and replacement be read before changing the belts.

- 1. Disconnect the spark plug wire and ground it against the engine.
- 2. Remove the deck as described in the separate deck manual.
- 3. Unhook the idler spring from the rider frame, See figure 26.
- 4. Remove the hex bolt, nut and lock washer at the torque rod bracket and transaxle. See figure 27.

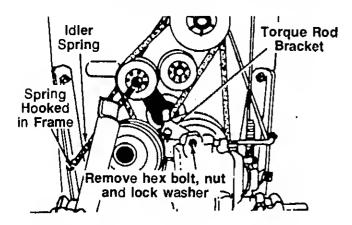


FIGURE 26.

Remove the hex bolt which holds the torque rod bracket to the torque rod, and remove bracket. See figure 27.

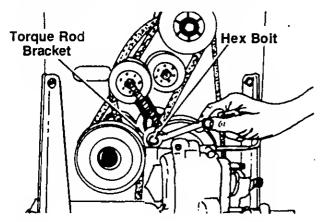


FIGURE 27.

6. Slip the "V"-belt off the variable speed pulley and transaxle pulley. See figure 28.

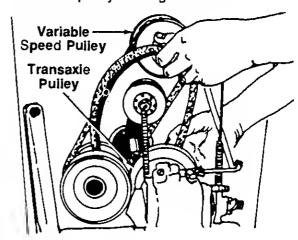


FIGURE 28.

 Remove two hex bolts, nuts and lock washers from the engine pulley belt guard at rider frame to allow the engine pulley belt guard to drop down out of the way. See figure 29.

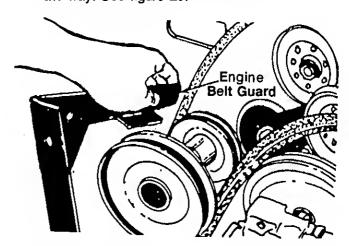


FIGURE 29.

8. Remove the idler pulley by removing the hex lock nut. See figure 30.

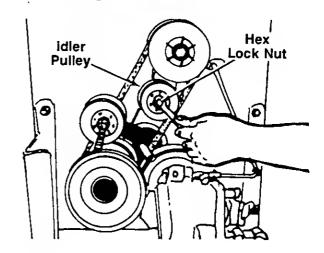


FIGURE 30.

9. Remove and replace the "V"-belt. See figure 31.

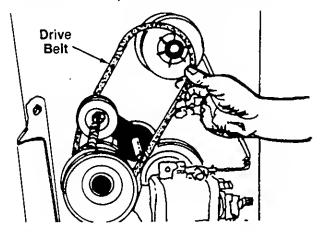


FIGURE 31.

 Upon reassembly of idler pulley, be certain the hub side of idler goes against the idler bracket. See figure 32.

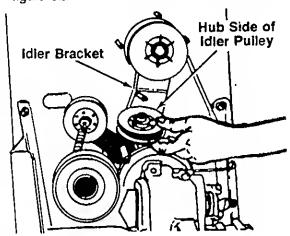


FIGURE 32.

11. When sliding the idler pulley on the idler bracket, be certain the belt is between the pulley and guide pin. See figure 33.

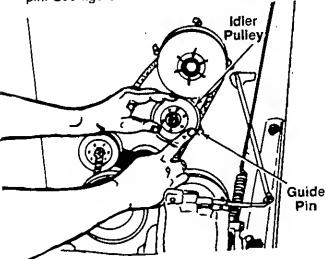


FIGURE 33.

 Reverse the above steps (paying close attention to steps 10 and 11) when reassembling the new belts.

NOTE: Be certain all belts are inside belt guards and keepers. Also, be sure to reassemble the safety wire at the deck chute.

OFF-SEASON STORAGE

If the machine is to be inoperative for a period longer than 30 days, prepare for storage as follows.

- 1. Clean the engine and the entire unit thoroughly.
- Lubricate all lubrication points. Wipe the entire machine with an oiled rag to protect the surfaces.
- Refer to the engine manual for correct engine storage instructions. The engine must be completely drained of fuel to prevent gum deposits from forming on essential carburetor parts, fuel lines and fuel tanks.
- 4. Refer to battery storage instructions on page 17.
- 5. Store unit in a clean, dry area.

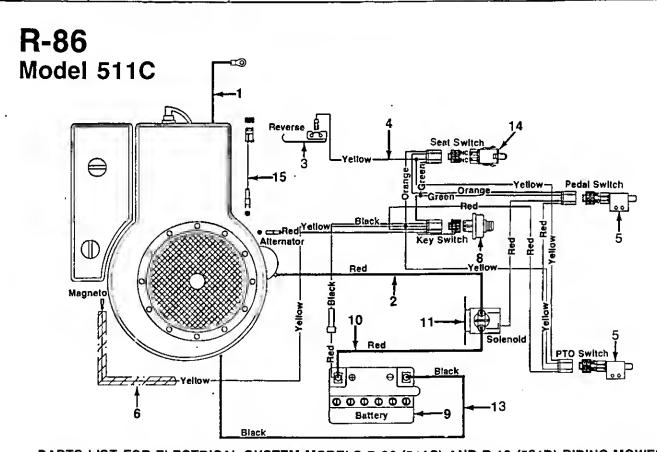
NOTE: When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rustproof the equipment. Using a light oil or silicone, coat the equipment, especially any chains, springs, bearings and cables.

TROUBLE SHOOTING GUIDE

TROUBLE	LOOK FOR	REMEDY :						
Engine will not crank	Battery installed incor- rectly	The battery must be installed with the negative terminal, identified at the terminal post by (Neg, N or -), grounded. The positive terminal (Pos, P or +) attaches to the lerge ceble from the solenoid. The small red wire from the fuse holder or circuit breaker is elso etteched to the positive terminal.						
	Blown fuse or circuit breaker	Reptace fuse with 7½ amp. fuse ¼ x 1¼" Ig. Circuit breaker will reset itself when it cools off. Fus or circuit breakers seldom open or fail without e reason. The problem must be corrected. Check loose connections in the fuse holder. Replace fuse holder if necessary. A dead short mey be in to cranking or charging circuit where the insulation may have rubbed through end exposed the bawire. Replace the wire or repair with electricien's tape if the wire strands heve not been damage Note: Look for a wire pinched between body panels, burned by the exhaust pipe or muffler or rubb against a moving part.						
	Battery is dead or weak	Use a hydrometer to check the condition of the battery. The Specific Gravity (s.g.) should be 1.265 at 80°F. (1.215 s.g. minimum needed for cranking engine). The reason for the bettery feiling must be determined. (1) Defective battery. Battery will not accept or hold e full charge. (2) Short circuit. Check for grounded wire. (3) Charging system not working.						
		The charging system is an alternator located under the flywheel. It is unregulated end reted 3 emp. at 3600 r.p.m. A diode (rectifier) is located in the output leed just before the wire harness plug on the engine side.						
		Red Wire Dlode Tube (Batt.) To Alternator (Lamps) Black Wire Polarized Plug						
, ,		The diode changes A.C. to D.C. to charge the battery. A bad diode can either fail to charge the battery or discharge the battery if the alternator is shorted as well as the diode. To test: (1) Disconnect charger lead from the battery (small red wire). (2) Connect 12 V small test lamp between the 3 emp. D.C. charge read and the positive terminal of the battery. (3) with the engine oil, the lamp should light. If it does not, the alternator (stator) or lead wire is bad and should be replaced.						
	Mechanical failure (Wires and switches)	The interlock system includes two mechanical activated switches which ere wired in series in the circuit used to energize the starter solenoid. While testing the interlock system, you will make the mower temporarily unsafe by permitting the engine to be started with the blade end clutch engaged. WARNING: While testing, disengage the clutch, shut off the blede controf, set the parking breke and place the gear shift lever in neutral. Attach a wire (minimum 18 gauge) to the positive terminal of the battery and touch the other end to the small terminal on the solenoid. If the engine does not crank: (1) There is a loose connection or poor ground. (2) The solenoid may be bad. The solenoid can be checked by using a heavy wire (#8 gauge minimum) and jumping between the two lerge terminals. If the engine cranks, the solenoid is bad. (3) If the engine does not crank when you jump the solenoid, have the starter motor tested by an authorized engine dealer. If the engine does crank, the problem is with one of the safety switches, ignition switch or the wire between the fuse holder (or circuit breaker) end the small terminal on the solenoid. Note: Look for a poor connection at the switches or e defective switch. Replace if necessary.						
Engine cranks but will not start	Throttle or choke not in starting position	Check owner's guide for correct position for throttle control and choke for starting.						
, I	No spark to spark plug Spark plug lead disconnected. Connect lead. Hold spark plug lead away from engine. There should be a spark, if not, heve engine repaired at authovice dealer.							
		Faulty spark plug. To test, remove spark plug. Attach spark plug lead to spark plug. Ground the spark plug body against the engine block. Crank the engine. The spark plug should fire at the electrode. Replace if it does not.						

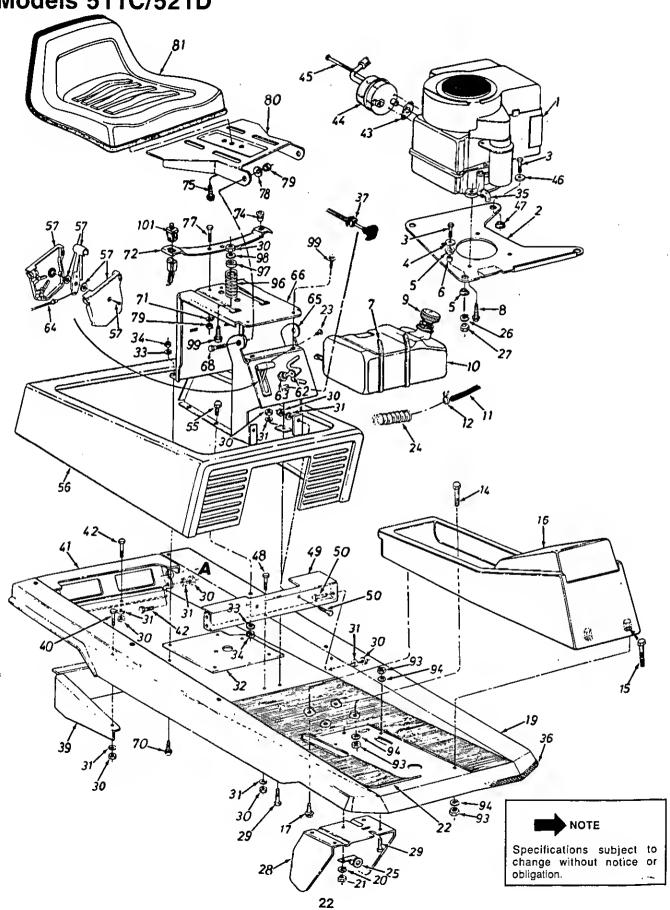
TROUBLE SHOOTING GUIDE

TRDUBLE	LOOK FOR	REMEDY
	No fuel to the cerburetor	Gasoline tank empty. Fill. Fuel line or in-line fuel filter plugged. Remove and clean fuel line. Replace filter if necessary.
	Air filter dirty	If the air cleaner is dirty, the engine may not start. Clean or replace as recommended by the engine manufacturer.
Engine smokes	Engine loses crenkcase vacuum	Dipstick not seated or broken. Replace defective part. Engine breather defective. Replace.
Excessive vibration	Bent or demaged blade spindle	Stop engine immediately. Check all pulleys, blade adapters, keys and bolts for tightness and damage. Tighten or replace any damaged parts.
	Bent blade	Stop engine immediately. Replace damaged blade. Only use original equipment blades.
Mower will not discharge gress or leaves uncut strips	Engine speed low Transmission selection Bledes short or dull	Throttle must be set between 3/4 and full throttle. Use lower transmission speed. The stower your ground speed, the better the quality of cut. Sharpen or replace blades (uncut strip problem only).



PARTS LIST FOR ELECTRICAL SYSTEM MODELS R-86 (511C) AND R-10 (521D) RIDING MOWERS

REF. ND.	PART ND.	CDDE	DESCRIPTION	REF.	PART ND.	CDDE	DESCRIPTION
3 4 5 6	725-0977 725-0424 732-0615 725-1431 725-3169 731-0757 725-0267	2222	Elec. Wire 8 Ga. x 9.0" Lg. Elec. Wire Spring Switch—Reverse Wire Harness Safety Switch Convoluted Tubing 29" Lg. Ignition Switch	10 11 13 14	725-0514A 725-0927 725-1426 725-0975 725-1441 725-1437	N N	Battery 12V Elec. Wire Red w/Boot Solenoid Elec. Wire 8 Ga. x 9.0" Lg. Seat Switch Adaptor Harness



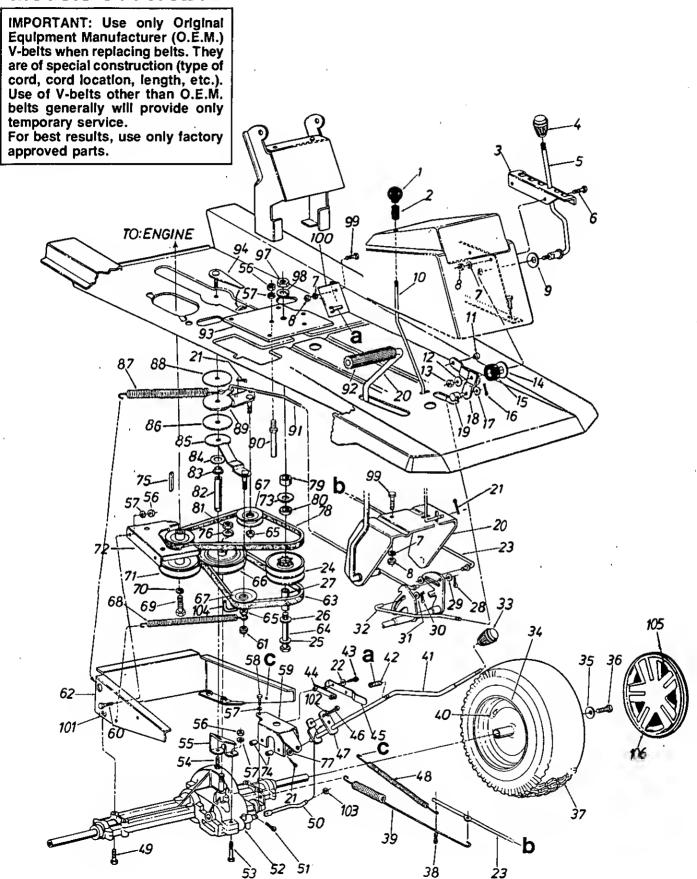
PARTS LIST FOR MODELS R-86 (511C) AND R-10 (521D) RIDING MOWERS

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	_		Engine	44	751-0412		Muffler Ass'y. (R-86)
2	15572A		Engine Mounting Plate	''	751-0425		Spark Arrester For 8 H.P.
3	710-0158		Hex Bolt 5/16-24 x 1.25" Lg.*		, , , , , , ,		Muffler (Optional)
4	736-0231	į	Fl-Wash330" I.D. x 1.125"		751-0413		Muffler Ass'y. (R-10)
1	700 0201		O.D.		751-0426		Spark Arrester For 10 H.P.
5	722-0153		Engine Mounting Grommet				(Optional)
6			Spacer .315" I.D. x .50" O.D.	45	738-0635		Shld. Bolt (R-86)
"	700-0003		x .520" Lg.	"	738-0636		Shid. Bolt (R-10)
7	726-0209		Cable Tie 30.6" Lg.	46	736-0343	•	Fl-Wash33" I.D. x 1.25" O.D.
8	l		Hex Wash. Hd. Self-Tap Scr.		736-0392		Flange Wash32" I.D. x
"	7 10 03027		3/8-16 x 1.25" Lg.	"	100 0002		.75" O.D.
9	723-0155		Gas Gauge	48	710-0118		Hex Bolt 5/16-18 x .75" Lg.
	751-0368		Fuel Tank		15604		Seat Support & Frame Brkt.
	751-0535-2	6	Gas Line—26 Inches	1	710-0118		Hex Bolt 5/16-18 x .75" Lg.*
	726-0205	i	Hose Clamp—1/2" O.D. Tube		710-0289		Hex Bolt 1/4-20 x .50" Lg.*
	710-0380		Hex Bolt 5/16-18 x 1.75" Lg.*		15975	629	Engine Cover Ass'y.
	710-0300		Hex Bolt 5/16-18 x 2.0" Lg.		831-0823A	020	Throttle Control Box Ass'y.
	731-0712A		Front Console		725-0201		Ignition Key
	710-0906		Plastite Scr. 5/16 x 1.25" Lg.		725-0267		Ignition Switch
	17672	483/N	Main Frame		746-0503		Throttle Control Wire
	736-0119	400/14	L-Wash. 5/16" I.D.*		16483A		Front Seat Bracket
	712-0267		Hex Nut 5/16-18 Thd.*		15606A		Rear Seat Bracket
	735-0220A		Floor Mat		710-0118		Hex Bolt 5/16-18 x .75" Lg.*
	710-0779A		Truss Mach. AB-Tap Scr.		712-0267		Hex Nut 5/16-18 Thd.*
20	110-01101		#10 x .50" Lg.		710-0855	1	Hex Tap Scr. 1/4-20 x 1.0" Lg.
24	731-0757		Convoluted Conduit	71			L-Wash. 5/16" I.D.*
	726-0175		Clamp	72			Seat Spring
	736-0119		L-Wash. 5/16" I.D.*		731-0555A		Grommet
	712-0123		Hex Nut 5/16-24 Thd.*	75			Hex Wash, Hd. Tap Scr.
	17677	N	Clutch-Brake Pedal Ass'y.				3/8-16 x 3/4" Lg.
	710-0118		Hex Bolt 5/16-18 x .75" Lg*	77	710-0118		Hex Bolt 5/16-18 x .75" Lg.*
	712-0267		Hex Nut 5/16-18 Thd.*		736-0242		Bell-Wash345" I.D. x .88"
	736-0119		L-Wash. 5/16" I.D.*		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		O.D.
	17713	N	Mounting Brkt. Variable	79	712-0158	1	Hex Cent. L-Nut 5/16-18 Thd.
			Speed Pulley		15607D		Seat Pivot Bracket
33	736-0329		L-Wash. 1/4" I.D.*		757-0345		Seat Ass'y. (R-86)
	712-0287		Hex Nut 1/4-20 Thd.*		757-0338		Seat Ass'y. (R-10)
	737-0125		90° Elbow Male To Female	93	712-0267		Hex Nut 5/16-18 Thd.*
	731-0511-1	8	Trim Strip 18" Lg.	94			L-Wash. 5/16" I.D.*
	746-0614A		Choke Control	- 1	732-0633		Compression Spring 2.61" Lg.
	15552		Transaxle Support Ass'y.	97			Bushing
	710-0118		Hex Bolt 5/16-18 x .75" Lg.*		736-0159		FI-Wash344" I.D. x .875"
	15571		Rear Frame Panel	99			Hex Bolt 5/16-18 x 1" Lg. (Gr. 5)
	710-0621		Hex Bolt 5/16-18 x .50" Lg.*	101		N	Seat Switch
	721-0207		Exhaust Gasket (R-86)			- 4	
	721-0208		Exhaust Gasket (R-10)				

^{*}For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

483—Charcoal Grey 629—Silver Flake NOTE: The engine is not under warranty by the mower manufacturer. . If repairs or service is needed on the engine, please contact your nearest authorized engine service outlet. Check the "Yellow Pages" of your telephone book under "Engines—Gasoline."

CODE: N notates a new part (not previously existing). A three digil number is the color code. Specify color code as shown below if color or finish is important when ordering parts. [i.e., 483 for Charcoal Grey Finish].



R-86/R-10

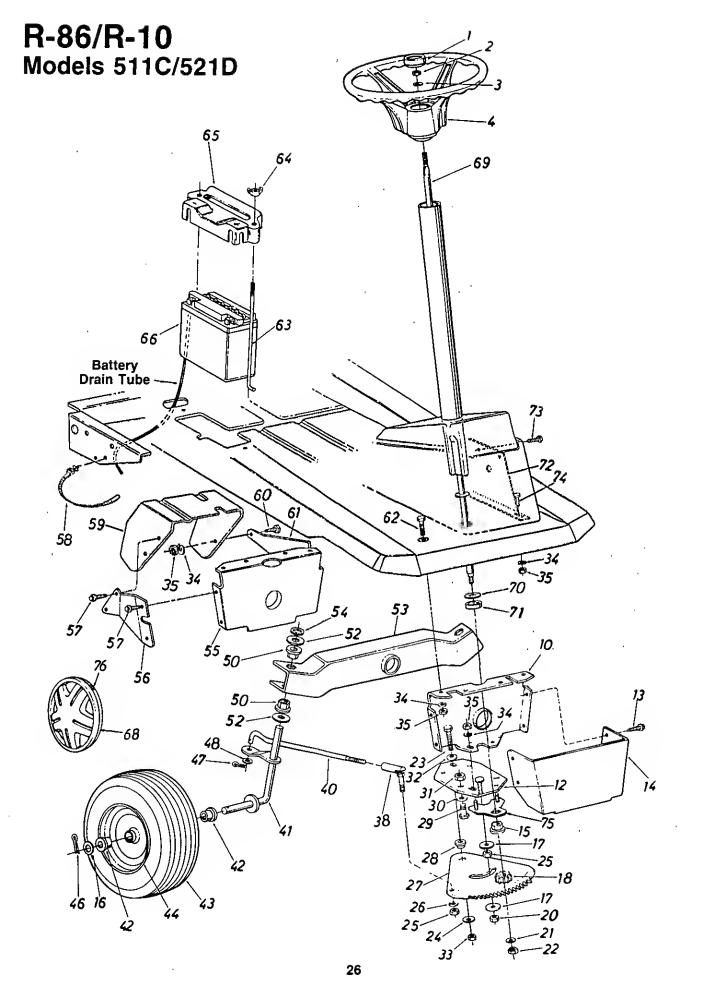
Models 51C/521D

PARTS LIST FOR MODELS R-86 (511C) AND R-10 (521D) RIDING MOWERS

REF. NO.	PART NO.	CODE	DESCRIPTION	REF.	PART NO.	CODE	DESCRIPTION
1	720-0187	<u> </u>	Ball Knob 1/4-20 Thd. 1.25"	53	710-0136		Hex Bolt 1/4-20 x 1.75" Lg.*
2			Compression Spring		710-0180		Hex Bolt 3/8-24 x .75" Lg.*
3			Speed Index Bracket		15564A		Torque Rod Bracket
4		N	Shift Knob		712-0287	İ	Hex Nut 1/4-20 Thd.*
5	747-0652	'	Speed Control Lever	57			L-Wash. 1/4" I.D.*
6			Truss Mach. Scr. 5/16-18 x		710-0965		Self-Tap Mach. Scr. Type "C"
			.75" Lg.*				1/4-20 x 1.37" Lg.
7	736-0119		L-Wash, 5/16" I.D.*	59	17515	'	Shift Lever Support Brkt.
8	,		Hex Nut 5/16-18 Thd.*		710-0597		Hex Bolt 1/4-20 x 1.00" Lg.*
	736-0253		Bell-Wash345" I.D. x .88"	61	ľ	N i	Hex L-Nut 3/8-24 Thd.
	747-0450		Brake Locking Rod		15552		Transaxle Support Ass'y.
	731-0493		Cap		754-0240	1	V-Belt
12			Bell-Wash345" I.D. x .08"		710-0693		Hex Bolt 3/8-16 x 4.5" Lg.
	712-0158	1	Hex Cent, L-Nut 5/16-18 Thd.		712-0116		Hex Ins. L-Nut 3/8-24 Thd.
	736-0154	<u> </u>	Fl-Wash. ,50" I.D. x 1,5" O.D.		756-0390		5/8 V-Pulley .500" I.D. x 6"
	735-0219	}	Rubber Washer	67		·	V-Belt Idler .38" I.D. x 3.06"
	714-0145		Intern. Cotter Pin 1/2" Dia.	68	732-0308		Ext, Spring .50" O.D, x 6.37"
	736-0275		FI-Wash34" I.D. x .68" O.D.	69	710-0314		Hex Bolt 7/16-20 x 1.00" Lg.
	16396	}	Speed Control Lever Brkt, Ass'y.	70	736-0171		L-Wash, 7/16" I.D.
	711-0677	j	Ferrule—Engagement	71	756-0391	·	Engine Pulley .500" O.D. &
20		N	Clutch/Brake Pedal Ass'y.				3.56" O.D.
21	714-0507		Cotter Pin 3/32" Dia. x .75"*	72	15623		Upper Eng. Belt Guard
22	736-0426	i	Plastic Washer	73	736-0219		Bell-Wash. 4" I.D. x 1.12" O.D.
23	747-0431		Brake Rod	74	750-0686		Spacer .256" I.D. x .50" O.D.
24	717-0884		Variable Speed Pulley Ass'y.	75	714-0114		SqKey ¼" x 2.00" Lg.
25	736-0247		Fl-Wash4" I.D. x 1.25" O.D.	76	738-0921		L-Wash. 1/2" I.D.*
26	741-0405		Thrust Brg. 1.25" O.D. x .56"	77			Fi-Wash469" I.D. x .88" O.D.
			I.D.	78	754-0241		V-Belt
	750-0705		Spacer Sleeve 2.71"	79			Spacer 1.00" x .380" O.D.
28	714-0115	•	Cotter Pin 1/8" Dia. x 1.25"*	80	741-0405		Thrust Wash56" I.D. x 1.25"
	736-0275		FI-Wash34" I.D. x .60" O.D.				O.D.
	714-0104		Intern. Cot-Pin 5/16" Dia.		712-0922		Hex Nut 1/2-13 Thd.*
31			FI-Wash34" I.D. x .60" O.D.		711-0676		Torque Rod
	747-0451		Speed Control Rod		748-0294		Flange Bearing .378
	720-0232	N	Shift Knob		736-0187		Fl-Wash. 640" I.D. x 1.24"
	734-0594		Rear Wheel Rim Only		15569A		Idler Bracket Ass'y
	736-0242		Bell-Wash345" I.D. x .88"		736-0283		Thrust Wash635" I.D.
	710-0627	!	Hex L-Bolt 5/16-24 x .75" Lg.	87			Extension Spring 7.58" Lg.
3/	734-0591*		Rear Wheel Ass'y.—Comp.		736-0284		Thrust Wash385" I.D.
ا م	734-0275*	" I	Tire Only		15585	•	idler Bracket Ass'y. For Clutch
	714-0470		Cotter Pin 1/8" Dia. x 1.25"*		711-0747		Belt Guard Pin 1/4" Dia.
	732-0389]	Extension Spring 17.0" Lg.	91			Clutch Rod
	734-0255		Air Valve		735-0196		Foot Pad
	16475		Shift Lever Ass'y.		17100		Mtg. Brkt. Variable Pulley
	732-0499		Compression Spring 1.50" Lg.	94			Weld Bolt Brkt. Ass'y.
	710-0227 726-0222		Hex Wash. Hd. Scr. #8 x .5" Lg. Insulator Nut		712-0798		Hex Nut 3/8-16 L-Wash. 3/8 Heavy Duty
	726-0222 732-0615	М			736-0217		
	710-0289	N	Spring Switch Hex Bolt 1/4-20 x .50" Lg.*		710-0118		Hex Bolt 5/16-18 x .75" Lg.*
			Shift Lever Adjusting Link		16482		Shift Lever Spring Brkt. Hex Sems Nut 5/16-18 Thd.
	16476 732-0487				712-0265 736-02 7 0		Bell-Wash265" I.D. x .75" O.D.
	710-0378		Ext. Spring 81/4" Lg. Hex Bolt 5/16-18 x 2.5" Lg.		736-0270 726-0231		Push On Retaining Ring
	747-0668		Shift Rod		747 - 0231	N	Belt Guard
	714-0149B		Intern. Cotter Pin		727-0425	"	Spring Clip
	717-0775V		Transaxle (See Breakdown)		734-1503		Hub Cap
ے ا	. 11-0110V		Transactio (Dee Dieandowii)	100	707-1000		rias oup

^{*}For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

^{*}If brand of tire is important, order by part number and description (description is printed on the sidewall of tire) [i.e. Armstrong Super Turf, Goodyear Softrac, Carlisle Turf Saver, etc.].



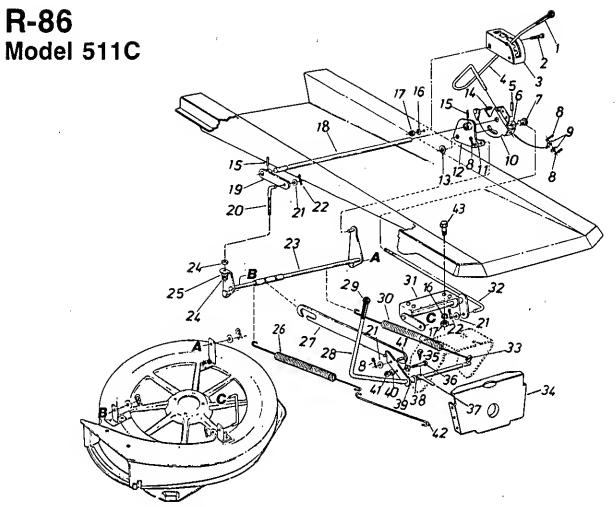
PARTS LIST FOR MODELS R-86 (511C) AND R-10 (521D) RIDING MOWERS

REF.	PART NO.	CODE	DESCRIPTION	REF.	PART NO.	CODE	DESCRIPTION
	NO. 731-0220 712-0237 736-0242 731-0805 15613 17653 710-0776A 15608 741-0225 736-0285 736-0285 736-0320 748-0290 712-0116 736-0275 712-0237 710-0459 736-0320 712-0241 736-0169 717-0472A 738-0541 710-0689 736-0160 712-0206 736-0105 712-0241 736-0119 712-0267 723-0156	N	Steering Wheel Cap Hex L-Nut 5/16-24 Thd. Bell-Wash345" I.D. x .88" O.D. Steering Wheel Ass'y. Pivot Bar Bracket Steering Gear Support Brkt. Hex Wash. Hd. AB-Tap Scr. 1/4 x .62" Lg. Steering Gear Cover Hex Flange Bearing Fl-Wash64" I.D. x 1.5" O.D. Fl-Wash64" I.D. x 1.37" O.D. Steering Pinion Gear Hex L-Nut 3/8-24 Fl-Wash34" I.D. x .68" O.D. Hex L-Nut 5/16-24 Thd. Hex Bolt 3/8-24 x 1.5" Lg. (Grade 5) Fl-Wash385" I.D. x 1.38" Hex Nut 3/8-24 Thd.* L-Wash. 3/8" I.D. * Steering Gear Segment Shoulder Spacer .622" Dia. x .218 Hex Bolt (Nylon) 1/2-13 x .75" Fl-Wash530" I.D. x .930" Hex Nut 1/2-13 Thd.* Bell-Wash385" I.D. x .88" Hex Nut 3/8-24 Thd.* L-Wash. 5/16" I.D.* Hex Nut 5/16-18 Thd.* Ball Joint Ass'y. 3/8-24 Thd.	NO. 42 43 44 46 47 48 50 52 53 54 55		•	Flange Bearing .632" I.D. Front Wheel Ass'y. Comp. Front Wheel Rim Only Cotter Pin 1/8" Dia. x 1.25" * Cotter Pin 1/8" Dia. x 1.00" * FI-Wash385" I.D. x .87" Hex Flange Bearing FI-Wash635" I.D. x 1.12" Pivot Bar Ass'y. Speed Nut 5/8" I.D. Pivot Bar Bracket Bracket Reinforcement—R.H. Hex Wash. Hd. AB-Tap Scr. 1/4 x .62" Lg. Cable Tie Clutch-Brake Pedal Ass'y. Hex Bolt 5/16-18 x .75" Lg. * Bracket Reinforcement—L.H. Hex Bolt 5/16-18 x .75" Lg. * Battery Hold Down Rod Wing Nut Solid 1/4-20 Thd. Battery Hold Down Cover 12V Battery Hub Cap Steering Shaft Ass'y. FI-Wash62" I.D. x 1.25" O.D. Spacer (Plastic) Reinf. Brkt. Ass'y. Truss Mach. Scr. 5/16-18 Hex Bolt 5/16-18 x 2.00" Lg. Steering Gear Adjuster Ass'y. Spring Clip
40	747-0417 15616A 15617A		Steering Tie Rod Front Axle Ass'y.—R.H. Front Axle Ass'y.—L.H. (Not Shown)				

▼FRONT WHEEL CHART

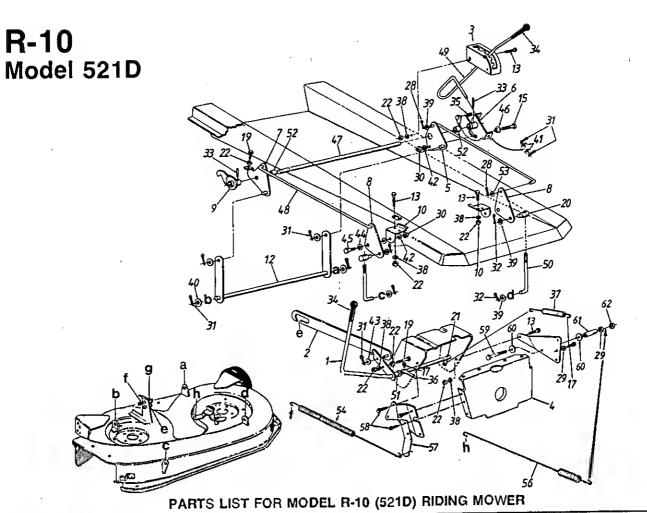
Description	11 x 4.0
Wheel Assembly Comp.	734-1454
Tire Only	734-1382
Rim Only	734-1455
Bearing	741-0487
Air Valve	734-0255
Grease Fitting	737-0146

Note: If brand of tire is important, order by part number and description (description is printed on the sidewall of tire) [i.e. Armstrong Super Turf, Goodyear Softrac, Carlisle Turf Saver, etc.].

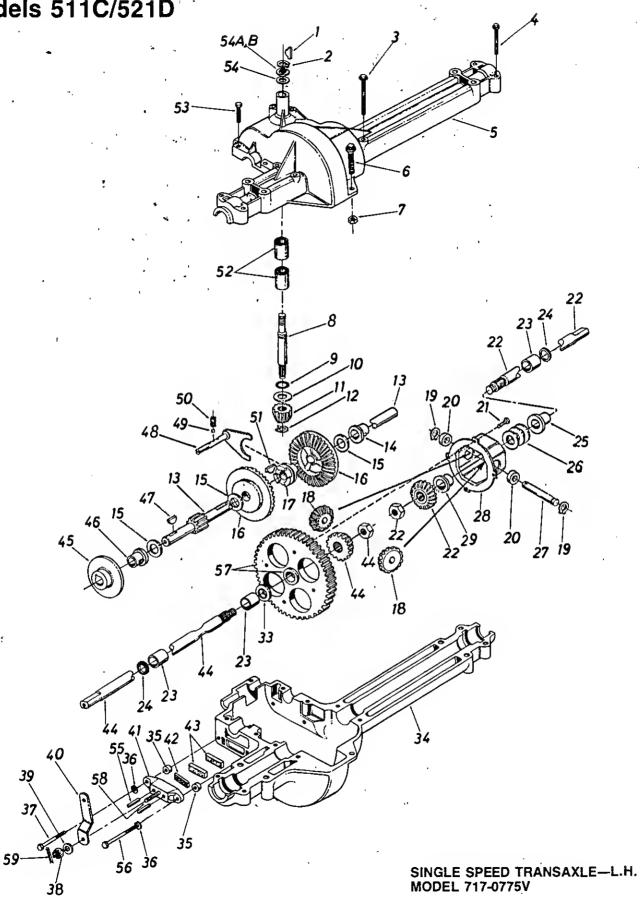


PARTS LIST FOR MODEL R-86 (511C) RIDING MOWER

REF. No.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	720-0223		Grip	23	15600A		Deck Link Ass'y.—Rear
2	710-0323		Truss Mach. Scr. 5/16-18 x	24	712-0798		Hex Nut 3/8-16 Thd,*
] _			75" Lg.*	25	736-0169		L-Wash. 3/8" I.D.*
3	16397		Deck Index Bracket	26	732-0540		Extension Spring .73" O.D. x
4	747-0651		Deck Lift Handle		•		13.84" Lg.
5	715-0134		Spring Pin Spir. 3/16" Dia. x	27	15644		Deck Drive Control Bracket
١ ۾	700 0407		1.50" Lg.		15568		Blade Engagement Lever Ass'y.
6	736-0187		Fl-Wash385" I.D. x .87" O.D.	29	720-0223		Grip
′	711-0749		Adj. Ferrule Deck Lift Handle	30	732-0540		Extension Spring .73" O.D. x
8	714-0115		Cotter Pin 1/8" Dia. x 1.00" Lg.*		l		_ 13.84" Lg
9	736-0160		Fl-Wash. 531" I.D. x .930" O.D.	31		N	Deck Lift Ass'y.—Front
10	16402		Deck Lift Handle Retainer Ass'y.	32	747-0426		Deck Lift Connecting Rod
11	736-0300		Fl-Wash385" I.D. x .87" O.D.	33			Clevis_Pin_Special .250" Dia.
12	15578		Deck Lift Brkt. Ass'y.—L.H.	34	15613		Pivot Bar Bracket
13			Fl-Wash. 635" I.D. x 1.04" O.D.	35	710-0642		Hex TT-Tap Scr. ¼-20 x .75"
14	732-0430		Compression Spring .50"		740 0005		Lg.
15	715 0114		Dia. x 1.0" Lg.	36	710-0805		Hex Bolt 5/16-18 x 1.50" Lg.
15	715-0114		Spring Pin Spir. 1/4" Dia. x	~-	700 0405		(Grade 5)
16	706 0110		1.50" Lg.	37	732-0435		Switch Actuator
17	736-0119 712-0267		L-Wash. 5/16" I.D.*	38	736-0160		Fl-Wash531" I.D. x .930" O.D.
18			Hex Nut 5/16-18 Thd.*	39	750-0760		Spacer .511" I.D. x .70" O.D.
19	15609A		Rear Hgt. Adj. Shaft	40	706 0110		x .38" Lg.
20	710-0866		Deck Lift Brkt. Ass'y.—R.H. Deck Adj. Scr. 3/8-16 Thd.	40			L-Wash. 5/16" I.D.*
21	736-0300		Fl-Wash385" I.D. x .87" O.D.	41	712-0267		Hex Nut 5/16-18 Thd.*
22	714-0145		Intern. Cotter Pin ½" Dia.	42 43	732-0451B 710-0118		Spring Hook
	717-0170		intern. Ootter Fill 72 Did.	43	/10-0118		Hex Bolt 5/16-18 x .75" Lg.



REF.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1 2 3 4 5	15568 15644A 16397 15613 17108 17109 17111 17112 17114A 17115 17123 710-0118 710-0253 710-0778	Z	Blade Engagement Lever Ass'y. Deck Drive Control Brkt. Ass'y. Deck Index Bracket Pivot Bar Brkt. Deck Lift Brkt. Ass'y. Deck Lift Handle Retainer Ass'y. Deck Lift Brkt. Ass'y. Deck Lift Bracket Deck Lift Float Brkt Ass'y. Deck Lift Float Brkt Ass'y. Deck Lift Pivot Brkt. Stabilizer Shaft Ass'y. Hex Bolt 5/16-18 x .75" Lg. Hex Bolt 3/8-16 x 1" Lg. Hex Wash. Hd. Scr. 1/4-20 x 1.5" Lg. Hex WashTap Scr. 5/16-18	36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	732-0435 732-0565 736-0119 736-0140 736-0156 736-0160 736-0300 736-0232 738-0183 738-0347 738-0550 747-0557 747-0651 747-0690 750-0515 750-0707		Switch Actuator Ext. Spring 5.86" Lg. L-Wash 5/16" I.D. FI-Wash385 I.D. x .62 FI-Wash635 I.D. x 1.12 FI-Wash531 I.D. x .930 L-Wash38" I.D. * FI-Wash385 I.D. x .87 O.D. Spring Washer .530 I.D. Shid. Bolt .500" Dia. x .215" Shid. Spacer .625" I.D. Rear Hgt. Adj. Shaft Connecting Rod Deck Lift Handle J-Bolt 5.4" Lg. Spacer .511 I.D. Spacer .885 I.D.
20 21 22 28 29 30 31 32 33 34 35	711-0198 711-0753 712-0267 714-0507 712-0287 712-0798 714-0101 714-0145 715-0114A 720-0223 732-0430	N	x 1.25" Lg. Ferrule Clevis Pin (Special) Hex Nut 5/16-18 Thd.* Cotter Pin 3/32" Dia. Hex Nut ¼-20 Thd. Hex Nut 3/8-16 Thd. Internal Cot. Pin ½" Dia. Int. Cot. Pins 3/8" Dia. Spring Pin Spir. 1/4" Dia. Grip Compression Spring 1.04"	53 54 56 57 58 59 60 61 62	736-0264 732-0531 732-0563 17310 710-0776 710-0102 736-0176 750-0583 712-0291		FI-Wash. 5/16" I.D.* Ext. Spring 22.05" Lg. Ext. Spring 15.38" Lg. Spring Anchor Hex Wash. Hd. AB-Tap Scr. ¼ x .62" Lg. Hex Bolt ¼-20 x 2.5" Lg. FI-Wash25" I.D. x .93" O.D. Spacer .255" I.D. Hex L-Nut ¼-20 Thd.



PARTS LIST FOR SINGLE SPEED TRANSAXLE LEFT HAND 717-0775V

REF.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	714-0129		#4 Hi-Pro Key 3/32 x 5/8" Dia.	34	717-0761		Lower Housing
2	716-0115		Snap Ring .625" Shaft	35	750-0555		Spacer .53" O.D. x 3/8" L.g.
	710-0854		Hex Bolt ¼-20 x 1.75" Lg.*	36	736-0329		L-Wash. 1/4" I.D.*
	710-0378		Hex Bolt 5/16-18 x 2.5"	37	710-0886		Hex Bolt 1/4-20 x 1.50" Lg.
5			Upper Housing	٠,	, ,,,		(Grade 5)
6			Hex FI-Bolt 1/4-20 x .88" Lg.*	38	712-0335		Castle Nut 5/16-24 Thd.
7	712-0287		Hex Nut 1/4-20 Thd.*	39	736-0159		FI-Wash344" I.D. x .875"
8			Input Shaft				O.D.
9			Square Seal 5/8" I.D.	40	717-0772		Actuating Arm
10			Thrust Washer 5/8" I.D. x	41	717-0679		Brake Yoke
'	700 0000		1.25" O.D.	42	717-0682		Puck Plate
11	717-0633		Pinion Input 14T	43	717-0678		Brake Puck
	716-0108		Retaining Ring 7/16" Ext.	44	717-0765		Axle L.H. Ass'y.—Kit
	717-0768		Drive Shaft	45	717-0677		Brake Disc
	741-0336		Flange Brg. 5/8" I.D. x 3/4" Lg.*	46	741-0337		Flange Bearing 5/8" I.D. x 15/16" Lg.
15	**		FI-Wash. (See Below)	47	714-0161		Woodruff Key 3/16 x 5/8 HT
	717-0757		Bevel Gear 42T	48	717-0754		Shift Fork Ass'y.
	717-0667		Clutch Collar	49	741-0862		Ball Detent .250" Dia.
	717-1020		Miter Gear 15T (H.D.)	50	732-0863		Spring Detent
	716-0142		Snap Ring	51	714-0169		#9 Hi-Pro Key 3/16" x 3/4"
20			Thrust Bearing ½" I.D. x 1.0"	,	, , , , , , , ,	!	Dia. HT
			O.D.	52	741-0335		Needle Brg. 5/8" I.D. x 1/2"
21	710-0862		Pan Head Scr. 1/4-20 x .50"		710 0055		Lg. Hex Bolt 1/4-20 x 1.00" Lg.
			Lg. w/Patch	53	710-0855		Fl-Wash. 5/8" I.D. x .030
	717-0766		Axle R.H. Ass'y.—Kit	54	736-0336		FI-Wash. 5/8" I.D. x .040
23	741-0340		Sleeve Bearing ¾" I.D. x		736-0337	<u> </u>	Actuating Pin 5/16" Dia.
١٠	704 0470	!	1.0" Lg.	55 56	741-0343		Hex Bolt 1/4-20 x 2.50" Lg.
	721-0179		Oil Seal 3/4" I.D.	50	710-0966		
25	741-0339		Flange Bearing 3/4" I.D. x	E-7	717 0767		(Grade 5) Differential Gear 72T Ass'y.
26	736-0188		15/16" Lg. Fl-Wash. :760" I.D. x 1.49" O.D.	57	717-0767		w/Bearing
	717-0673		Cross Shaft	58	717-0681	1	Sg. Hd. Bolt 5/16-24 Thd.
	717-0777		Differential Housing Ass'y.	59	1544-013		Cotter Pin 3/32" Dia. x .50"
29			Part of Ref. 28				Lg.
	736-0188		FI-Wash760" I.D. x 1.49" O.D.	-	737-0148		GreaseShell (10 oz.)

^{**}Ref. No. 15 736-0349 FI-Wash. 5/8" I.D. x 1.0" O.D. x .020" Thk. 736-0336 FI-Wash. 5/8" I.D. x 1.0" O.D. x .030" Thk. 736-0337 FI-Wash. 5/8" I.D. x 1.0" O.D. x .040" Thk.

Part No.	Description
777-6550	Square Plastic Logo
777-6551	Label—Steering Wheel
777-6549	Plastic Logo on Engine Box
777-6584	R-86 Label Engine Box
777-8837	R-10 Label Engine Box 🔸



OUTDOOR POWER PRODUCTS